Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

<u>Listing of Claims</u>:

1.   (Original)   An inkdrop printer having a multi-segment printhead comprising:

two or more print engine/controllers, each configurable to be coupled with others to drive the multi-segment printhead;

a memory buffer for receiving compressed page data;

image decoders to perform an expansion, in pipeline fashion, of the compressed page data;

a half-toner/compositer to composite respective strips of the decoded image planes; and

a printhead interface to output the composite strip to the printhead

the printhead interface including:

a multi-segment printhead interface outputting printhead formatted data; and

a synchronization signal generator outputting a synchronization signal to couple the print engine/controllers to synchronize their respective strips at the printhead.

2.   (Original)   The printer of claim 1 wherein:

the printhead interface is adapted to receive an input signal which determines if the print engine controller is a master controller or a slave.

3.   (Original)   The printer of claim 1 wherein:

the pipeline fashion expansion further comprises the expansion, in parallel, of a JPEG-compressed contone CMYK layer and at least one other layer.

4.   (Original)   The printer of claim 3 wherein:

the other layer is a Group 4 Fax-compressed bi-level black layer.

5.   (Original)   The printer of claim 4 wherein:

the pipeline fashion expansion further comprises the expansion, in parallel with the layers, of a Group 4 Fax-compressed bi-level dither matrix selection map.

6.   (Original)   The printer of claim 1, wherein:

the half-toner/compositer further comprises a tag encoder for encoding bi-level infra-red tag data from the compressed page data.

7.   (Original)   The printer of claim 3 wherein:

the pipeline fashion expansion further comprises a second stage dithering of the contone CMYK layer using a dither matrix selected by the dither matrix select map.

8.   (Original)   The printer of claim 7 wherein:

the second stage further comprises a compositing of the bi-level black layer over a resulting bi-level K layer.

9.   (Original)   The printer of claim 8 further comprising:

the second stage further comprises the generation of an infra-red layer.

10.   (Original)   The printer of claim 8 further comprising:

the second stage further comprises the generation of a fixative layer.

11.   (Original)   The printer of claim 10 wherein:

the fixative layer is generated at each dot position according to the need in a C, M, Y, K or IR channel.

12.   (Original)   The printer of claim 1 wherein:

the pipeline fashion expansion is performed using a high speed serial interface, a standard JPEG decoder 28, a standard Group 4 Fax decoder, a half-toner/compositor unit, a tag

encoder, a line loader/formatter unit.

~~12.~~13.   (Currently Amended)   The printer of claim ~~11~~ 12 wherein:

the decoders and encoder are buffered to the half-toner/compositor.

~~13.~~14.   (Currently Amended)   The printer of claim 12 wherein:

the high speed serial interface is an IEEE 1394 interface.

~~14.~~15.   (Currently Amended)   The printer of claim 1 wherein;

the half-toner/compositor scales input image planes under control of a margin unit set to establish print data for a strip of the image.

~~15.~~16.   (Currently Amended)   The print engine/controller of claim 1, wherein:

the half-toner/compositer has as an input, an expanded contone layer, an expanded bi-level spot1 layer, an expanded dither-matrix-select bitmap and tag data.

~~16.~~17.   (Currently Amended) The print engine/controller of claim ~~15~~16, wherein:

the half-toner/compositor includes a margin unit to apply margin data to the respective image planes during the composite process to generate print data in strips.

~~17.~~18.   (Currently Amended) The print engine/controller of claim ~~15~~16, wherein:

the halftoner/compositor scales input image planes under control of a margin unit set to establish print data for a strip of the image.

~~18.~~19.   (Currently Amended) The print engine/controller of claim ~~17~~18, wherein:

the half-toner/compositor further comprises a number of scale units, each scale unit receiving data from a buffer layer and at least one scale unit receiving two control bits, the control bits being an advance dot bit and an advance line bit.